A Manual of Saddles and Collars, Sore Backs and Sore Shoulders. By Veterinary-Captain Fred Smith A.V.D. Second Edition, 1893. Eyre & Spottiswoode, London.

THE merits of this little work were pointed out when it first appeared. The second edition is an improvement upon the first, inasmuch as a chapter dealing with collars and sore shoulders has been added. The main part of the work is devoted to saddle and saddle injuries, and the subject is treated from the military standpoint. Nevertheless it contains much matter that is interesting to every horseman. A most excellent series of diagrammatic illustrations is given at the end of the text.

A Manual of General Histology. By William S. Gottheil, M.D., Professor of Pathology in the American Veterinary College, New York. Sabiston, Murray & Co., 1894.

THERE is now no lack of good text-books in the English language on the subject of general histology, but, nevertheless, we have no doubt this one will find a ready sale. It extends to only 138 pages, and therefore does not deal exhaustively with the subject. To the student beginning the study of histology, however, that is a merit rather than a defect. The text is illustrated by sixty-eight wood-cuts, which without exception are good. The author says in the preface that his aim has been to exclude theories and moot points, and to reduce the explanations of the structure of the body to their simplest terms; it appears to us that in this attempt he has been very successful. The publisher's share of the work is exceptionally well done.

Die Subcutane Myotomie des Schweifes bei Fferden. Von Dr P. R. Brücher. Berlin, 1894. Richard Schoetz.

THE operation of "nicking" is seldom practised at the present day in this country, but that can hardly be the case in Hanover, for the author of this monograph has himself during the last twenty-five years performed the operation by the subcutaneous method on more than 7000 horses. The operation, the author says, is not very adequately or accurately described in the text-books on Surgery, and he has therefore been induced to publish this little book on the subject. It extends to thirty-two pages and is illustrated by ten useful diagrams. The best methods of securing the horse for the operation, the operation itself, and the after treatment, are all very lucidly described. The price of the book is 1 mark.

CLINICAL ARTICLES.

THE EMPLOYMENT OF MALLEIN IN THE DIAGNOSIS OF GLANDERS.

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THE following notes on the employment of mallein as a diagnostic test in obscure cases of glanders may prove of interest to practitioners, as demonstrating the importance and value of this agent. We shall first give a brief history of the outbreak in the present instance.

The stud of horses was the property of an extensive carrying establishment in the city, but the owner also kept a small farm, to which it was customary to send any horses requiring rest, etc.

The stud comprised forty-six animals, of which ten were young horses; the latter were kept in a distant part of the farm, and had never been in contact with the others.

On 27th May, about 11.30 P.M., one of us (Peard), as Veterinary Inspector, acting on private information, visited the farm, and there found a bay mare dead; examination proved this to be a very advanced case of glanders and farcy combined.

The *septum nasi* was literally eaten through by ulceration, and almost the entire body was covered with unmistakable evidences of farcy.

A careful examination of the horses in the town stable showed that one brown pony had a very slight discharge from the left nostril, and the submaxillary gland of the same side was enlarged and hard. Five other horses also showed enlarged hard glands but no nasal discharge. These six animals were destroyed, and *post-mortem* examination revealed that pulmonary glanders existed in all, while in some the characteristic ulcerations were present very high up on the *septi nasi*.

The remaining horses were kept under close observation, but no symptoms developed until 7th July, when two horses in the city stable showed enlarged and hard submaxillary glands, and one on the farm—a bay mare—developed a slight nasal discharge.

The Local Authority of the Cork Union, in the form of a committee, gave the matter their serious consideration, and it was at first suggested that all the animals should be destroyed, in order to prevent the further spread of the disease. From further inquiry it transpired that within the past three years the owner of these horses had lost about fifteen animals from what he considered to be some form of influenza, but from the symptoms described there was little doubt as to the real nature of the disease.

In order to save the great expense to the ratepayers which the destruction of this number of horses would have incurred, in the way of compensation, as full value would have had to be paid for every animal which did not show evidence of glanders at the *post-mortem* examination, the employment of mallein was advised by the veterinary inspector to the Local Authority (Peard).

This was approved of, and we were empowered to carry out the test with the assistance of Mr J. Preston of Mallon.

After a great deal of persuasion the owner consented to this proposal, being influenced at first by discussions which appeared in the local Press as to the value of mallein, and almost persuaded that its use would be accompanied with danger to his horses by friends who were totally ignorant on the subject.

However, science prevailed, and on the evening of the 9th July mallein was injected in the region of the neck, to all the horses, thirty in number.

The injections were carried out between the hours of 8.45 P.M. and 9.30 P.M., 18 minims of mallein being given to each. The temperatures had been taken previously at 12 A.M. the same day, as well as immediately before giving the injections. The accompanying temperature chart shows the temperatures recorded, with the hours of observation.

We visited the animals at 4 A.M. on 10th July, and found in many of the cases, marked constitutional disturbance.

In No. 29, a grey gelding, violent rigors were present, with

stertorous breathing, staring coat, and an extensive tense, painful enlargement at the seat of injection. Others showed constitutional disturbance to a less degree, but were dull and depressed.

No. 17, a well-bred black four-years-old gelding, which previously appeared a perfectly healthy animal, and in good condition, showed rigors, staring coat, and an extensive swelling at the seat of injection, the temperature being $104\frac{1}{5}^{\circ}$.

About half the animals showed no reaction, beyond the slight rise in temperature observed in some, as recorded in the chart; these were feeding at hay, and were in marked contrast to the others; only a slight swelling at the point of injection was present in these.

The animals which showed a rise in temperature of 2° or upwards, at the observation taken at 12.30 P.M. were condemned, sixteen in number. These were destroyed on the 14th July, and the *post-mortem* examinations were conducted by Mr Preston, Mr D. Prentice, Veterinary Department, Dublin Castle, and ourselves.

The result of this examination was that in every case, with the exception of No. 20, the characteristic tubercles of glanders were found in the lungs.

No ulcerations could be discovered in the respiratory passages of any of the cases.

No. 20 was an Argentine cob, and in it the only lesions discoverable were those of chronic bronchitis.

A reference to the chart will show that the temperature prior to inoculation was $100\frac{2}{5}^{\circ}$, at 4.41 A.M. $101\frac{1}{5}^{\circ}$, at 8.52 A.M. $103\frac{2}{5}^{\circ}$, at 12.53 P.M. $104\frac{1}{5}^{\circ}$, at 4.46 P.M. 104° .

The enlargement at the seat of injection was fairly extensive and tender, but constitutional disturbance not well marked.

No. 17, the black gelding, had well-marked lesions of pulmonary glanders.

Nos. 29 and 30, in which the highest temperatures were recorded, showed enormous swellings at the point of injection, which remained until the horses were destroyed.

No. 30 had entire loss of appetite and general weakness, the Schneiderian mucous membrane became of a leaden hue, and the autopsy revealed extensive pulmonary lesions.

No. 29, deserves special notice. She was purchased five years previously, from a circus in which many cases of glanders had occurred.

She was during this period noticed to have a discharge from one nostril; this was intermittent in character, and disappeared when she was left at grass, reappearing when the animal was brought to the town stable and put to work. The autopsy of this animal showed in both lungs extensive lesions, the tubercles undergoing degeneration.

The submaxillary gland was but slightly enlarged, and no ulcerations were present in the respiratory system.

The results obtained in the present instance from mallein are eminently satisfactory and demonstrate the value of the agent.

By no other means could a diagnosis have been arrived at, and when we consider the enormous risk of these animals, working daily in a city, coming in contact with healthy animals, perhaps some disposed of and brought to another locality, setting up fresh centres of infection, we are bound to recognise the value of the scientific

workers in the profession, who have discovered and perfected this method of diagnosis. The wholesale slaughtering of animals in contact with the diseased ones is a practice which, in our present state of knowledge, so far as glanders is concerned, should not be permitted.

In conclusion, we beg to express our thanks to Messrs Byrne, Russell, Hawkesworth, and Sherlock, veterinary students, for valuable assistance at the thermometric observations and also at the *post-mortem* examinations, and to Professor M'Faydean, for valuable information regarding the employment of mallein.

LIST OF HORSES INJECTED WITH MALLEIN BY ORDER OF THE
LOCAL AUTHORITY FOR CORK UNION.

No.	Description.	July 9, '94		July 9, '94		July 10, '94		July 10, '94		July 10, '94		July 10, '94		July 10, '94		Remarks.
		Hour.	Temp.	Hour.	Temp.	Hour.	Temp.	Hour.	Temp.	Hour.	Temp.	Hour.	Temp.	Hour.	Temp.	
1.	Dark Grey Mare	P.M. 12.30	100	P.M. 9.20	100	A.M. 1.30	100½	A.M. 4.0	101½	A.M. 8.30	104½	P.M. 12.30	105½	P.M. 4.3	105	Found Glandered on p.m.
2.	Bay Mare	12.30	99½	9.20	100	1.30	100½	4.0	100	8.30	103½	12.30	105	4.3	104½	Do. do. do.
3.	Bay Mare	12.30	100½	9.20	100½	1.33	100	4.3	100	8.30	101½	12.30	101	4.7	100½	
4.	Dark Ch. Mare	12.34	100	9.24	100½	1.33	99½	4.3	100	8.34	100	12.33	100	4.7	100	
5.	Ch. Gelding	12.34	100½	9.24	100½	1.38	104½	4.8	102	8.34	104½	12.33	104	4.12	104	Do. do. do.
6.	Ch. Gelding	12.34	99½	9.24	99½	1.38	99	4.8	99½	8.34	102½	12.33	103½	4.12	103½	Do. do. do.
7.	Bay Mare	12.37	100	9.28	100½	1.42	100	4.13	100	8.38	100	12.37	100½	4.16	100	
8.	Chestnut Mare	12.37	100½	9.28	100½	1.42	100	4.13	100	8.38	101½	12.37	100½	4.16	100½	
9.	Chestnut Gelding	12.37	100	9.28	100½	1.45	100	4.17	100	8.38	100½	12.37	100½	4.22	100	
10.	Grey Gelding	12.41	99½	9.31	100	1.45	100	4.17	99½	8.41	100	12.41	100½	4.22	100	
11.	Bay Gelding	12.41	101	9.31	101	1.49	102½	4.23	103½	8.41	106	12.41	105½	4.27	105	Do. do. do.
12.	Bay Gelding	12.41	99	9.31	100	1.49	100	4.23	100½	8.41	103½	12.41	103½	4.27	103½	Do. do. do.
13.	Sallow Ch. Geld.	12.45	100½	9.35	100½	1.53	100	4.28	100	8.45	103½	12.45	103	4.32	103	Do. do. do.
14.	Bay Gelding	12.45	101	9.35	100½	1.53	103	4.28	105½	8.45	106½	12.45	105½	4.32	105	Do. do. do.
15.	Grey Mule	12.45	100	9.35	100	1.57	100	4.32	100½	8.45	100½	12.45	100½	4.37	100½	
16.	Chestnut Gelding	12.50	100	9.39	100½	1.57	101	4.32	100	8.49	100½	12.49	100½	4.37	100	
17.	Black Gelding	12.50	100	9.39	100½	2.0	100½	4.37	104½	8.49	104½	12.49	105½	4.41	105	Do. do. do.
18.	Bay Mare	12.50	100½	9.39	101½	2.0	100½	4.37	100½	8.49	101½	12.49	100½	4.41	100	
19.	Bay Gelding	12.54	100	9.43	100½	2.4	100½	4.41	100	8.52	102	12.53	103	4.46	103	Do. do. do.
20.	Brown Gelding	12.54	100	9.43	100½	2.4	100½	4.41	101½	8.52	103½	12.53	104½	4.46	104	No appearance of Glanders on [p.m.]
21.	Bay Gelding	12.54	100	9.43	100½	2.8	100	4.45	100½	8.52	100	12.53	101½	4.50	100	
22.	Ch. or Roan Mare	12.59	100½	9.49	100	2.8	100	4.45	100	8.56	100½	12.57	100½	4.50	100	
23.	Bay Gelding.	12.59	100	9.49	100½	2.12	100½	4.49	100½	8.56	100	12.57	100½	4.54	100	
24.	Bay Mare	12.59	100½	9.49	100½	2.12	100½	4.49	100	8.56	101½	12.57	100	4.54	100	
25.	Grey Gelding	1.30	101½	8.45	102½	12.40	102½	3.30	104	8.10	104½	12.15	104½	5.16	104½	Found Glandered on p.m.
26.	Dark Br. Gelding	1.30	100½	8.45	101½	12.40	101½	3.30	101	8.10	100½	12.15	101	5.16	101	
27.	Brown Gelding.	1.30	100½	8.45	101	12.44	100	3.35	100	8.10	101½	12.15	104	5.16	104	Do. do. do.
28.	Grey Gelding	1.34	100½	8.50	100½	12.44	100	3.35	101½	8.15	104½	12.18	104½	5.21	104½	Do. do. do.
29.	Chestnut Mare.	1.34	100½	8.50	101	12.50	101½	3.40	104	8.15	105	12.18	106½	5.21	106½	Do. do. do.
30.	Bay Gelding	1.34	100½	8.50	101½	12.50	102½	3.40	105	8.15	105½	12.18	106	5.25	106	Do. do. do.